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A third series is the *Appleton's Scientific Primers*, edited by J. REYNOLDS GREEN, an English botanist. Three of this series have appeared, the third by the editor and entitled *Botany*. It is written from the English point of view, which lays much stress on details and terminology, but is effective in presenting the plant as a living organism, for the author is a physiologist. A great deal of material is packed in the 128 pages, and it would be interesting to know the impression such material makes upon those without laboratory experience.—J. M. C.

Mendelism

PUNNETT's little book² on Mendelism, which was one of the first attempts at a simple popular presentation of its subject, has been completely rewritten and enlarged for its third edition. It is in fact a new book, written however from the same point of view and for the same circle of readers. The author limits himself to the presentation of illustrative examples, with no attempt at exhaustiveness in any phase of the subject, referring readers to BATESON's book on *Mendel's principles of heredity* for more detailed information and for references to the literature. The material used to illustrate the various principles is well chosen, and is mostly derived, as might be expected, from the work of the Cambridge group of geneticists, of which the author is one. This results in a decided advantage, since the author's familiarity with his material favors clarity and vividness of presentation. The slight sense of provincialism given by this method is in this way more than compensated for.

While the treatment is in the main admirable, several unfortunate errors have crept in. It is stated (p. 2) that "among animals the female contributes the ovum and the male the spermatozoon; among plants the corresponding cells are the ovules and pollen grains." Several other zoological writers on genetic subjects have obviously made the same mistake. The animal ovum (after maturation) and spermatozoon are homologous cells, but ovules and pollen grains are not single cells, and not even homologous structures, the ovule consisting mostly of maternal somatic tissue, and the pollen grain being a much reduced gametophyte. The embryo sac within the ovule, and the sperm nuclei in the pollen tube, approximately correspond to the ovum and spermatozoa. On page 51, line 16, *c* should be *C*, and in fig. 8 on the following page the three squares which are black should be albino, and the three marked "albino," but containing *C*, should be black. The author assumes that dominance of a character always indicates that such character is due to something added to the recessive form, thus ignoring the possibility pointed out several years ago by the reviewer³ that the positive character may be recess-

²PUNNETT, R. C., *Mendelism*. Third edition, entirely rewritten and much enlarged. pp. xiv+192. pls. 6 and frontispiece. figs. 32. New York: The Macmillan Co. 1911.

³The "presence and absence" hypothesis. *Amer. Nat.* 43:410-419. 1909.

sive through the failure of the unpaired gene in the heterozygotes to produce a visible effect.

A number of excellent text figures and six plates, five of them colored, add greatly to the attractiveness of the book, and the press work leaves nothing to be desired.

This little manual is worthy of an even larger measure of the appreciation which has been given to its two preceding editions by those engaged in other scientific fields, and by general readers who are not themselves engaged in science, but who like to keep themselves informed on the advances that are being made in science.—GEO. H. SHULL.

MINOR NOTICES

Alpine plant life.—In an attractive volume intended for the general reader, ARBER⁴ has described the plant life of the higher altitudes of the Swiss Alps. The plants are treated in ecological groups, and an evident effort has been made, not unsuccessfully, to maintain the ecological point of view throughout. It might be questioned if most modern ecologists would find as many beautiful adaptations as are evident to the author, who declares that not only the color of the flowers, but the density of their pigment "may be primarily due to a specialization in favor of a particular class of insect visitor." Other adaptations of alpine plants receive considerable attention, and the probable origin of the alpine flora is briefly discussed.

The text is pleasing in style, the descriptions are accurate and profusely illustrated by more than 75 excellent plates and figures. A glossary of botanical terms and a chapter on the structure of the flower should make all the descriptions intelligible even to the reader who is entirely without scientific training.—GEO. D. FULLER.

NOTES FOR STUDENTS

Cecidology.—The anatomy and histology of insect galls continues to be an interesting and profitable field not only for the entomologist, but also for the plant pathologist and the experimental biologist. WEIDEL⁵ gives us a valuable study of the life history of the gall of *Neuroterus vesicator* Schlecht. He first calls attention to the failure thus far to explain experimentally the reason for gall formation, and the necessity of comparing the structure of the gall with the normal structure of the plant. After briefly reviewing the history of the study of the gall structures, especially the studies of BEYERICK, who attributed the gall characters which are recognized by the zoologist to a "growth enzyme," he discusses his methods. These methods are well worthy

⁴ ARBER, E. A. NEWELL, *Plant life in alpine Switzerland*. 8vo. pp. xxiv + 355. pls. 47. figs. 30. London: John Murray. 1910. \$1.50.

⁵ WEIDEL, F., *Beiträge zur Entwicklungsgeschichte und vergleichenden Anatomie der Cynpidengallen der Eiche*. *Flora* 102: 279-334. pl. 15. figs. 49. 1911.